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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/799,714

03/15/2004

Yutaka Mihashi

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06/30/2006

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EXAMINER

LANE, JEFFREY D

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

★

Office Action Summary	Application No. 10/799,714	Applicant(s) MIHASHI ET AL.	
	Examiner Jeffrey D. Lane	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/15/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/11/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species I in the reply filed on 4/18/06 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Nomoto et al. (US 2003/0165169).

As for claim 1 Nomoto discloses in fig. 1, A ridge waveguide semiconductor laser including an optical resonator and comprising: an active layer 3; a semiconductor layer 4 on said active layer and having a ridge-shaped waveguide therein (Paragraph [0062-0063]); an insulating film 7 (Paragraph [0064]) on said semiconductor layer; a first

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electrode layer in contact with said semiconductor layer through an opening in said insulating film; and a second electrode layer 9-1 (See Paragraph [0065]) on said first electrode layer having a stripe shape and extending generally parallel to said waveguide, wherein distance from an end face of the resonator to an edge of said second electrode layer is less than 20 μm (Paragraph [0066]).

As for claim 3, the first electrode layer includes a titanium electrode layer and a gold electrode layer laminated in that order; and said gold electrode layer has a thickness of at least 700 nm.

As for claim 2, Nomoto discloses, an electrode lead-out line 11 extending from said second electrode layer; and a bonding pad (edge of 11) on said insulating film extending from said electrode lead-out line (See Paragraph [0065]). The extension conducts electricity to the active part of the laser and provides a portion to bond a wire too.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nomoto et al. (US 2003/0165169) in view of Yokoyama (US 6323507).

As for claim 1 Nomoto discloses all that pertains to claim 1, however Nomoto does not explicitly disclose the thickness of the insulating film to less than 250 nm. Yokoyama discloses, "If the dielectric (insulating) layer has a thickness greater than 100 nm, the crystallographic property of the other layers tends to degrade". Therefore it would have been obvious at the time of the invention to make the insulation layer less than 100 nm to avoid degradation.

6. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomoto et al. (US 2003/0165169) in view of Wang et al. ("Effect of Au thickness on laser beam penetration in Invar-to-Invar packages" Wang, S.C.; Chang, H.L.; Wang, C.; Wang, C.M.; Liaw, J.W.; Sheen, M.T.; Sheu, Y.C.; Kuang, J.H.; Chi, S.; Yang, Y.D.; Cheng, W.H.; Electronic Components and Technology Conference, 1997. Proceedings. 47th; 18-21 May 1997 Page(s): 1272 - 1276.)

As for claim 5, Nomoto discloses all that pertains to claim 1. Nomoto further discloses a titanium electrode layer and a gold electrode layer laminated in that order (See Paragraph [0065]); said gold electrode layer has a thickness of at least 200 nm (See Paragraph [0065]). However Nomoto does not disclose, a gold-plated layer that has a thickness of at least 800 nm. Wang discloses, "The optimum thickness of Au <gold> coating is found to be 2 μ m which both the highest weld strength and good solder adhesion on the same housing materials can be achieved." (Pg 398, Column 2 lines 4-7). Therefore it would have been obvious to one of ordinary skill at the time of

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the invention to use a gold coating of 2 μ m to have good weld strength and solder adhesion.

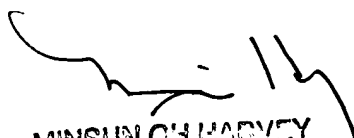
As for claims 6 and 7, Nomoto discloses a platinum barrier metal layer between said titanium electrode layer and said gold electrode layer (See Paragraph [0065]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey D. Lane whose telephone number is (571) 272-1676. The examiner can normally be reached on Monday thru Friday 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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PRIMARY EXAMINER

JDL


Jeffrey D Lane
Examiner
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